

REMARKS

No claims have been added or amended. Claims 5, 7-9, and 15-16 have been cancelled as corresponding to non-elected claims. Thus, claims 3-4, 12-14, and 17-20 are pending. Applicants reserve the right to pursue the original claims and other claims in this and other applications.

Claims 3-4, 12-14, and 17-20 stand rejected as being unpatentable over Ishida (U.S. Patent No. 4,560,342) in view of Maus (U.S. Patent No. 5,512,221). This rejection is respectfully traversed.

The present invention is directed to a mold apparatus for producing a plurality of optical elements. According to one aspect of the present invention, the apparatus includes a first mold unit which defines a plurality of mold cavities, and a second mold unit having a plurality of patterns for molding optical patterns (e.g., micro refractive or diffractive patterns) in the optical elements. When a molding process is applied to the apparatus, plural optical elements having a plurality of optical patterns are formed. The optical elements have shapes respectively identical to mold cavities and surfaces respectively identical to the plurality of optical patterns. According to one aspect of the present invention, the patterns may be located on a metal puck, which is inserted between the two mold units. Accordingly to yet another aspect of the present invention, mold pins can be inserted to control the size of the optical elements. The mold pins may also be used to impart yet another optical pattern upon the optical elements.

Each of the pending independent claims recite the use of plural patterns on surfaces which form optical patterns. More specifically, claim 3 recites: "said integrated mold surface containing a plurality of patterns for molding optical patterns in the

optical elements." Claim 12 recites "molding optical elements within said mold cavities such that said optical patterns of said single metal puck are formed in said optical elements." Claim 17 recites: "forming a plurality of optical patterns in a single metal puck."

Ishida is directed to a method and apparatus for producing concave lenses. Column 2, lines 19-26; Abstract; See column 1, lines 6-15. Referring to Fig. 2, the apparatus disclosed by Ishida includes a first mold unit 3a and a second mold unit 3b. The first mold unit 3a includes a first cavity 8a, while the second mold unit 3b includes a second cavity 8b. Together, the two cavities 8a, 8b, form a combined cavity 8 in the shape of a concave lens. Ishida discloses other mechanisms for permitting injection molding of a concave lens in the cavity 8.

The Office Action states that Ishida is being applied for reasons of record, and concludes that Ishida discloses all the features of the claimed invention except for the use of mold pins. Reconsideration is requested.

The reasons of record are contained in the Office Action mailed September 10, 2001 (Paper No. 14), where the Examiner asserted that "it is submitted that the instant "pattern" is broad enough to encompass the formation of the lens surfaces themselves." Applicants respectfully submit that this conclusion is not correct. The claims refer to the use of optical patterns, that is, patterns which are micro diffractive or refractive. Ishida only discloses the formation of the surfaces of the optical element. There is no disclosure in Ishida with respect to the use of any optical pattern. Optical patterns, when present on a lens, are additional features formed on a lens surface and not the surface itself. Thus, Ishida fails to disclose or suggest the above-recited features of the claimed invention.

The Office Action additionally cited to Maus. However, Maus, like Ishida, also fails to teach or suggest the use of the above-recited features of the independent claims.

Independent claims 3, 12, and 17 are therefore believed to be allowable over the prior art of record. The depending claims are also believed to be allowable for at least the same reasons. In view of the above, each of the presently pending claims in this application is believed to be in immediate condition for allowance. Accordingly, the Examiner is respectfully requested to pass this application to issue.

Dated: October 22, 2003

Respectfully submitted,

By 

Mark J. Thronson

Registration No.: 33,082

Christopher S. Chow

Registration No.: 46,493

DICKSTEIN SHAPIRO MORIN &
OSHINSKY LLP

2101 L Street NW

Washington, DC 20037-1526

(202) 785-9700

Attorneys for Applicant